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NOTES ON GEOGRAPHIC DISTRIBUTION

Leopardus pajeros (Desmarest, 1816) (Carnivora: Felidae) in Northern Peru: First record for the department of Piura, at the Mangroves San Pedro de Vice, and geographic extention

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ABSTRACT: On October 1st, 2006, at the Mangroves San Pedro de Vice –MSPV (Sechura, Piura - Peru) the first visual record of *Leopardus pajeros* was made in the southern part of the area (05°31'09" S, 80°53'28" W). Subsequently, between August and December of 2010, different tracks were recorded. On December 4th, 2010, the first photographic record was taken at the MSPV with two nights/trap, being the first record for Piura department, the westernmost coordinates, the lowest altitude above sea level (0 m), and the first associated with a wetland in Peru.

The pampas cat *Leopardus pajeros* (Desmarest, 1816) is categorized as Near Threatened and is poorly known (IUCN 2010). The little knowledge about the entire pampas cat group is probably one of the reasons why the group has a problematic taxonomy. Some authors, such as García-Perea (1994), and subsequently Wozencraft (2005), based on morphological data, recognized three polytypic species: (1) *L. colocolo* (with 2 subspecies), (2) *L. braccatus* (also with 2 subspecies), and (3) *L. pajeros*, (with 7 subspecies), with the Peruvian subspecies been *L. pajeros garleppi* (García-Perea 1994). However, others authors (*e.g.* Johnson *et al.* 1999; Sunquist and Sunquist 2009), based in genetic data, recognized only one polytypic species, *L. colocolo*, with several subspecies. In this article, we will follow García-Perea (1994) classification.

The pampas cat group has an ample distribution in South America; extending from the Mid-latitudes of Ecuador to Southern Argentina, including Peru, Bolivia, Chile, Paraguay, Uruguay and the Central and Southern portions of Brazil (Cossíos *et al.* 2007b). *Leopardus pajeros* is distributed in the highlands of the Eastern slope of the Andes, in Ecuador, Peru, Bolivia, and Northwestern Argentina; lowlands of Northwestern, Central, and Southern Argentina; and the Chilean Patagonia (García-Perea 1994). Its distribution in Peru includes ecosystems such as Puna grasslands, Andean forest, valleys, dry forest and some coastal hills (Cossíos *et al.* 2007b). Its altitude range is between 400 m in Atiquipa, Arequipa (Zeballos *et al.* 2000) and Lachay, in Lima (Ramírez *et al*. 2001), up to 4,982 m in Ancash (Cossíos *et al.* 2007a). The close pampas cat species from central Brazil, *L. braccatus*, appears to be a diurnal species, with some crepuscular and occasionally nocturnal activity (Silveira *et al.* 2005); nevertheless, there are some authors who sustain the opposite in high Andean zones (Lucherini *et al.* 2009), but this could be because it is another pampas cat, *L. pajeros* (probably *L. p. budini*).

Leopardus pajeros feeds on rodents, small birds and some plants (Romo 1965; Fajardo *et al.* 2010). Some authors (Bagno *et al.* 2004; Sánchez-Soto 2007) have indicated that *L. pajeros* prefers low areas with high grass in or near swamps and marshes (similar to the Mangrove swamp of San Pedro de Vice), however, data on its closest species, *L. braccatus*, from Emas National Park in Central Brazil, shows that *L. braccatus* prefers drier, short grassland habitat far from water (Cabrera and Yepes 1960 *apud* Silveira *et al*. 2005).

The Mangroves San Pedro de Vice (MSPV) is located on the Pacific Coast of the district of Vice, province of Sechura, Piura, Peru (05°29'-05°33' S, 80°52'-80°54' W), with an extension of 3,013 ha (Figure 1). It presents six habitats, from east to west: (1) a forest of *Prosopis* trees, dominated by scattered *Prosopis pallida*, with *Colicodendron scabridum* and *Acacia macracantha*, with an extension of 500 ha; (2) a desert area, devoid of vegetation, with an extension of 2,000 ha; (3) an area of 100 ha with *grama* grass and scattered *Carob* trees; (4) a mangrove forest (*Laguncularia racemosa* and *Avicennia germinans*) on both sides of the tidal channel, with an area of 193 ha; (5) a tidal channel with borders that flood, with an area of 120 ha; and lastly, (6) a sandy beach with about 100 ha. The average elevation is 5 m, the region is characterized by an extremely dry climate with very little precipitation (less than 50 mm/year), and the annual average temperature is 26°C (The Ramsar Convention on Wetlands 2010).

Presently, the MSPV has three international denominations: it is considered a RAMSAR Wetland (The Ramsar Convention on Wetlands 2010). It is also considered an Important Bird Area - IBA PE012 (BirdLife International 2011). Finally, it is a member of the Western Hemisphere Shorebird Reserve Network (WHSRN 2010). Regardless of the international denominations, it lacks legal recognition from the Peruvian State, which would elevate it to the status of a protected area within the country. All three international denominations are based on the abundance and presence of migratory, threatened and endemic bird species in this wetland. Nonetheless,

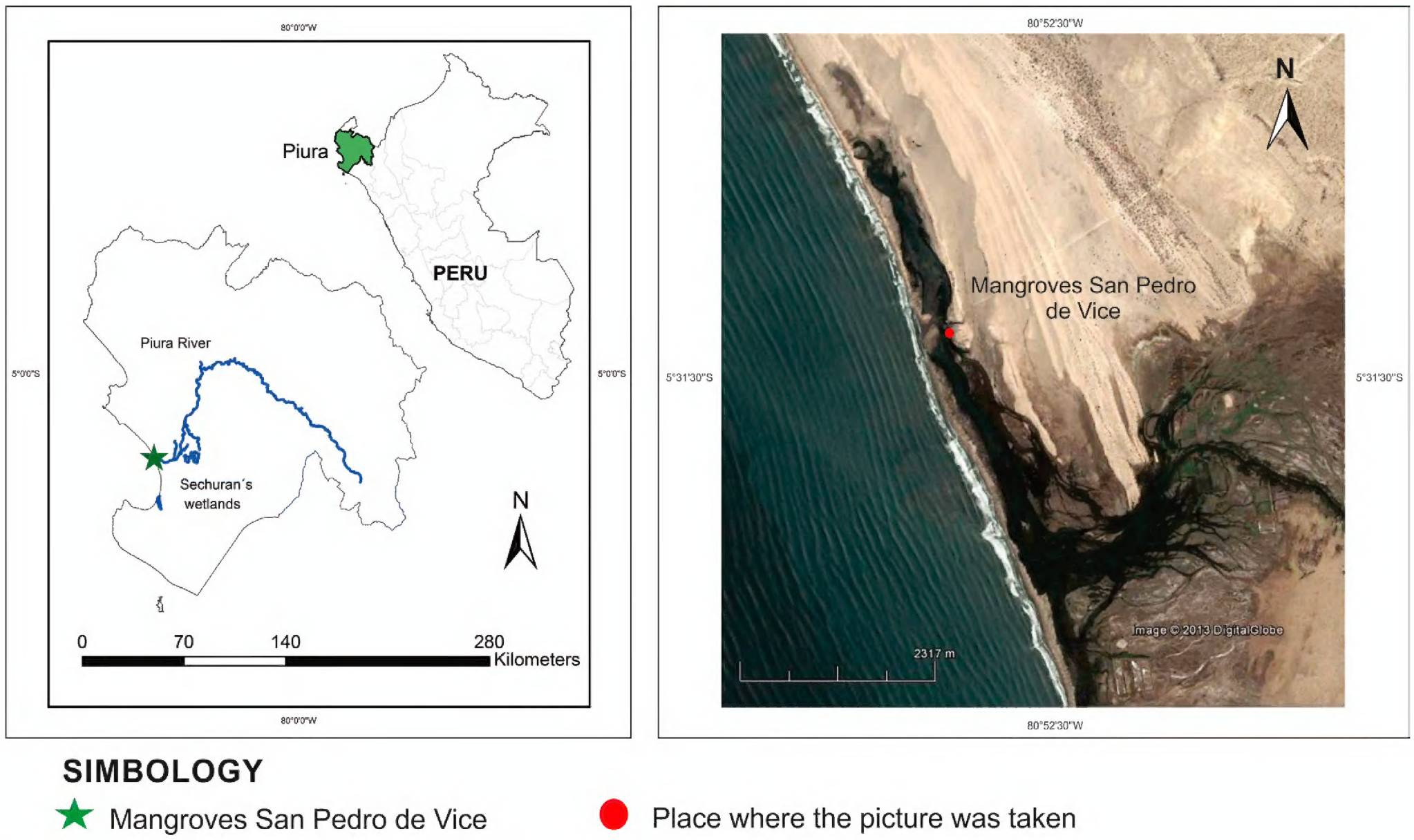


FIGURE 1. Mangroves San Pedro de Vice (Sechura, Piura,Peru) (5°30´ S, 80°53´ W). Source: Google Earth.

there are also notable species of mammals, such as the pampas cat that is presented for the first time for the region in this article.

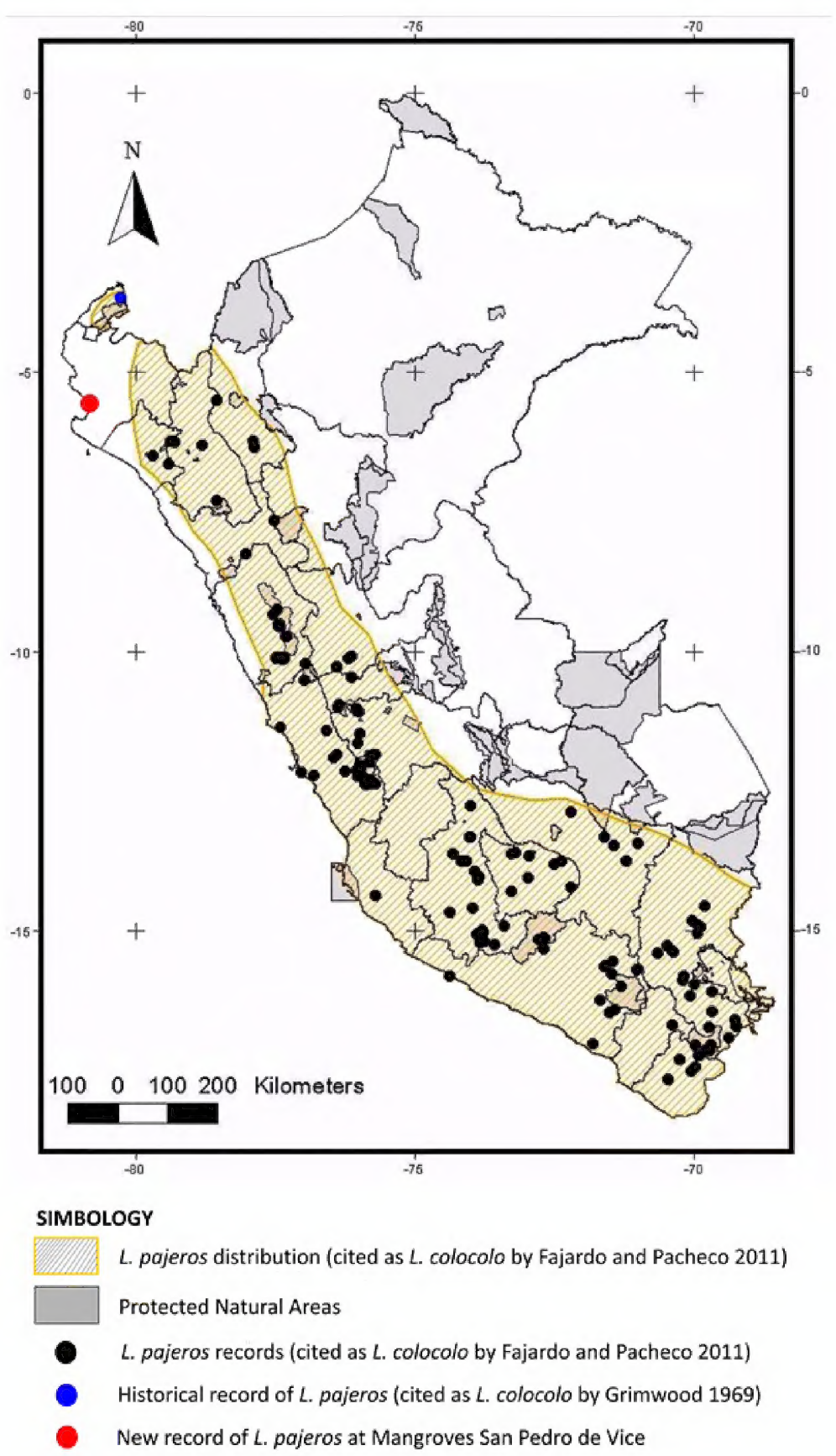
The first record of *L. pajeros* inside the MSPV corresponds to a visual record made on October 1st, 2006, in a visit by members of the Centro Neotropical de Entrenamiento en Humedales (CNEH). The individual was observed on a sandy substrate between the *grama* grass and the mangrove on the south side of the area (05°31'09" S, 80°53'28" W), walking into the mangrove forest. Subsequently, three groups of tracks were found in four visits between August and December of 2010. The first one was made 300 m to the north of the visual record, the second one was made to the south of that point (05°32'12" S, 80° 52'15" W) and the third one to the north (05°30'25" S, 80°53'4" W). The tracks were found covering an approximate distance of 3.8 km, consistently occurring close to mangrove and *grama* grass. On August 15th, 2010, two parallel paths of footprints (spaced by 30 cm) were observed (Figure 2), which may indicate the presence of at least two individuals.

On December 3rd, 2010, a camera-trap was placed near the area of the first record of tracks, along the borders of a small lake belonging to the tidal channel (05°31'05" S, 80°53'34" W). In the next day, between 07:00 and 17:00 h, the camera-trap recorded the species, confirming the presence of *L. pajeros* inside the MSPV (Figure 3).

Our records represent solid evidence of *Leopardus pajeros* in the department of Piura (Northwest coast of Peru), located approximately 170 km north from where it was recorded by Cossíos *et al.* (2007a) (cited by these authors as *Lynchailurus colocolo*) at Batán Grande dry forest of the department of Lambayeque, making our record the current northernmost record for *L. pajeros* in

FIGURE 2. Two parallel paths of footprints of *Leopardus pajeros* (August15th, 2010).

Figure 3. *Leopardus pajeros* walking inside the mangrove forest, along the borders of a small lake belonging to the tidal channel (December 4th, 2010).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SIMBOLOGY
L. pajeros distribution (cited as L. colocolo by Fajardo and Pacheco 2011)
Protected Natural Areas
L. pajeros records (cited as L. colocolo by Fajardo and Pacheco 2011)
Historical record of L. pajeros (cited as L. colocolo by Grimwood 1969)
New record of L. pajeros at Mangroves San Pedro de Vice

Figure 4. Map of distribution of *Leopardus pajeros* in Peru, showing the new record at Mangroves San Pedro de Vice. Source: Fajardo and Pacheco 2011.

Peru. Historically, the northernmost record of *L. pajero* corresponds to the Zarumilla area, department of Tumbes, on the northwestern tip of Peru, located approximately 230 km north from this record, where Grimwood (1969) recorded it from 100 to 200 m (Figure 4). Although there is no new data for the species in Tumbes, we may assume that it continues inhabiting the region since it is distributed to Ecuador, where the habitat is suitable. More research is needed to validate these speculations. In addition, our finding is also the westernmost record for *L. pajeros*, the lowest altitude above sea level (0 m), and the first associated with a wetland in Peru.

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